

# Elementary GLOBE

David Bydlowski, Kristie Massey, Amie Smith, and Brad Smith  
“Super Science for Super Teachers — Continuing Changing  
the Equation” (S3T-C2tE) — Partnership between Madonna  
University, Lawrence Technological University and the  
Michigan Department of Education

# Presentation Objectives

- I can become a teacher in the GLOBE Program
- I can access all of the Elementary GLOBE materials, online.
- I can get training online to utilize the Elementary GLOBE materials and become a certified GLOBE Teacher

# The GLOBE Program

The Global Learning and Observations to Benefit the Environment (GLOBE) program is a worldwide hands-on, primary and secondary school-based science and education program.

<http://globe.gov>

<http://www.globe.gov/globe-videos/home-trailer.mp4>



# Join the GLOBE Program Today

Create a Teacher account by visiting  
<http://globe.gov>  
go to the menu bar and “Join”



# THE GLOBE PROGRAM

English

Log Out



## Goat Rescued from Sinkhole Inspires GLOBE Student Research in Ohio

Following the discovery of a goat that had fallen into one of the numerous sinkholes in their community, GLOBE students in Adams County, Ohio, studied the geology and soil science of the Ohio Valley where sinkholes can cause severe geologic hazard and significantly damage or destroy

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## Welcome to GLOBE

The Global Learning and Observations to Benefit the Environment (GLOBE) program is a worldwide hands-on, primary and secondary school-based science and education program.

[Learn More about GLOBE ▶](#)



## New to GLOBE?



Teachers

## GLOBE Community



[See Members ▶](#)

**Schools:**  
28,132

**Teachers:**  
21,516

**Total Measurements:**  
127,454,192

**Measurements This Month:**  
160,196

[Enter Live Data ▶](#)

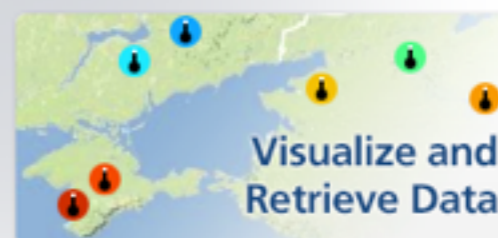
[Enter Training Data ▶](#)

### Collaboration Groups

Recent Postings In:  
[Community Feedback Forum](#)

**RE: Phenology data entry - add a new plant**  
Natalie - sorry it's taken so long to get back to you...and thanks for reposting. I believe we have everything we need to add this to the database. We'll plan on >>

[View All Groups](#)



**Visualize and Retrieve Data**



**Connect Students to GLOBE Partner Satellite Missions**

## Teachers

### Start Here

[Create An Account](#)

[Do GLOBE Today](#)



### Become a GLOBE Teacher

Science educators and citizen scientists around the world become involved with GLOBE by attending a Teacher Training Workshop where they receive professional development on the implementation of GLOBE pedagogical models for inquiry-based research and the use of GLOBE protocols to answer scientific research questions. Once teachers have attended a GLOBE training event or completed GLOBE E-Teacher certification, they are provided with the knowledge and tools to implement GLOBE Protocols and learning activities in a classroom setting, work with their students to make data observations, and report these observations to the GLOBE website via an assigned Sign In identification. Training workshops are listed [online](#).

[Create a GLOBE Teacher Account](#)

[Contact Me for more Information](#)

[Find a U.S. Partner or Country Coordinator implementing GLOBE in my Country](#)

[Find GLOBE Schools in my Country](#)

## Teachers

[Start Here](#)[Create An Account](#)[Do GLOBE Today](#)

### Create a GLOBE Teacher Account

Request to become a GLOBE Teacher by creating an account.

Filling out the form below gives you access to register for a Teacher Training Workshop.

Once trained, your GLOBE Teacher account will allow you to report data to the database and post to discussion boards with teachers just like you around the world. Prior to training, you have access to all the resources within the GLOBE website.

Create your account now to start your students' path of exploration, discovery and investigation of the Earth.

\* Required fields

\*First Name

\*Last Name

\*Email

\*Gender

\*Country

# Elementary GLOBE

K-4 Earth System Science Unit

# Elementary GLOBE™

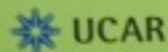
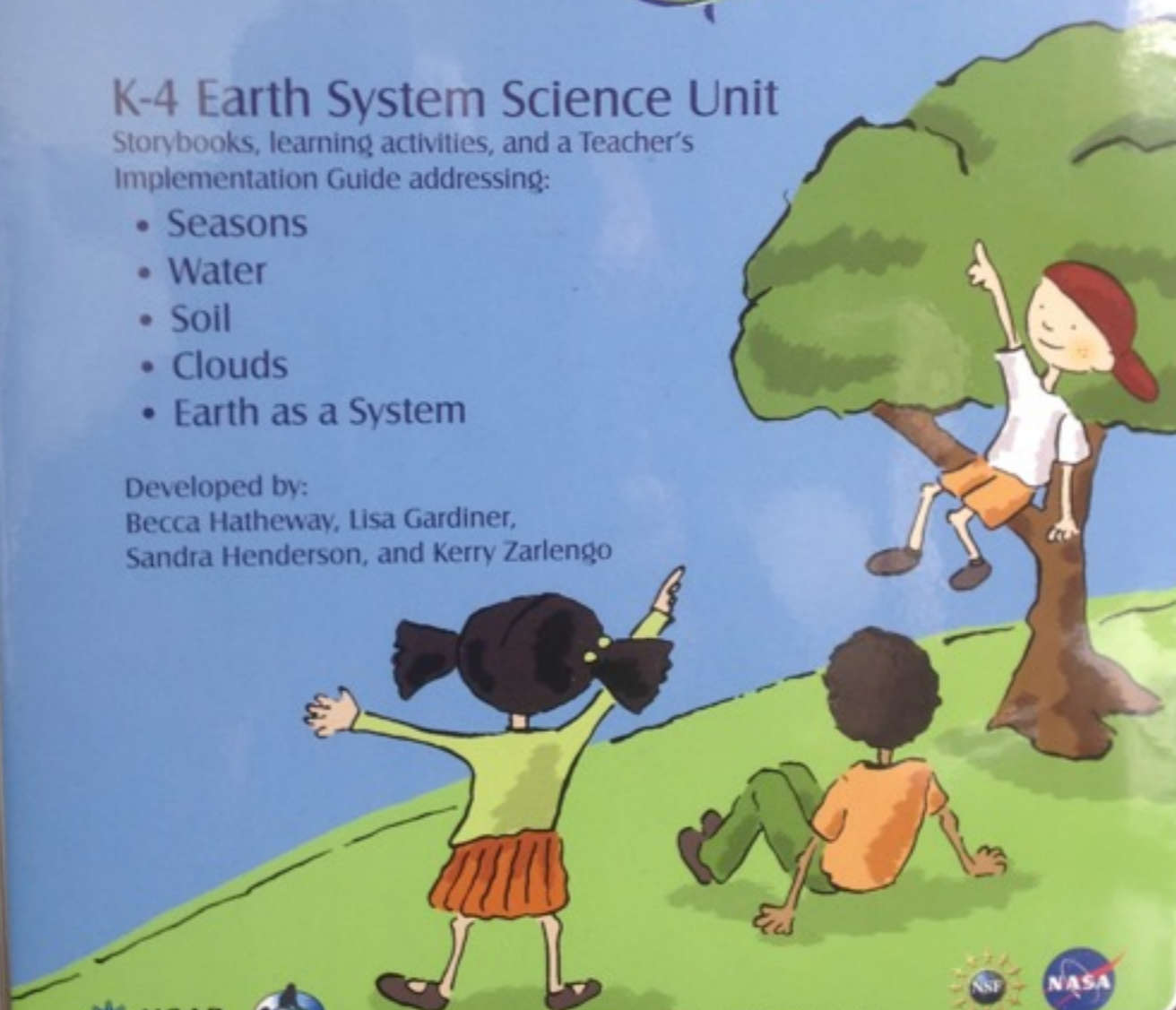
## K-4 Earth System Science Unit

Storybooks, learning activities, and a Teacher's Implementation Guide addressing:

- Seasons
- Water
- Soil
- Clouds
- Earth as a System

Developed by:

Becca Hatheway, Lisa Gardiner,  
Sandra Henderson, and Kerry Zarlengo



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You can pay \$49 or  
get it for FREE

Get it right now!!!!

<http://www.globe.gov/web/elementary-globe>

## Elementary GLOBE

[Overview](#)[Earth Systems](#)[Clouds](#)[Soils](#)[Seasons](#)[Water](#)[Authors & Editors](#)[Members](#)[Discussions](#)[Documents](#)[Useful Links](#)

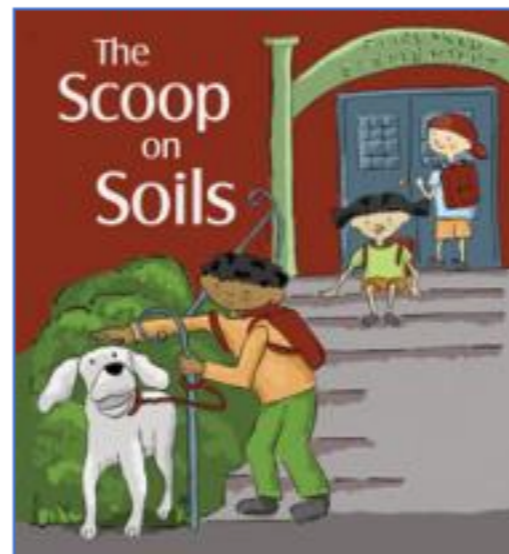
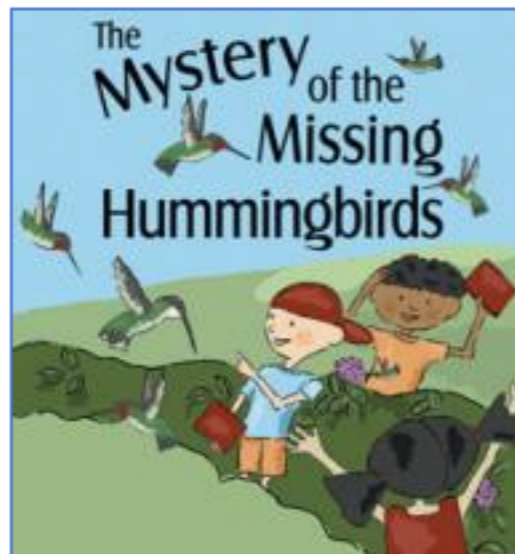
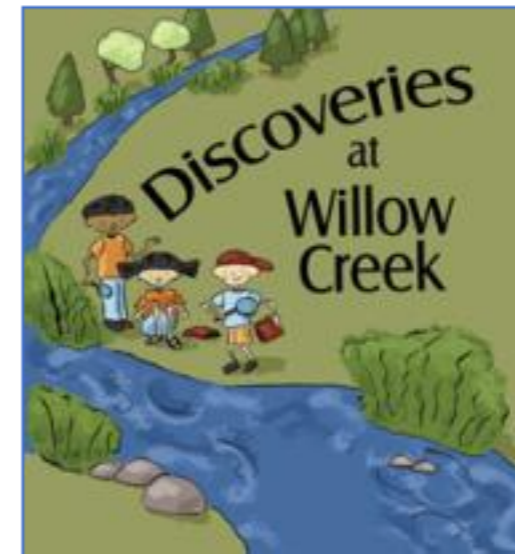
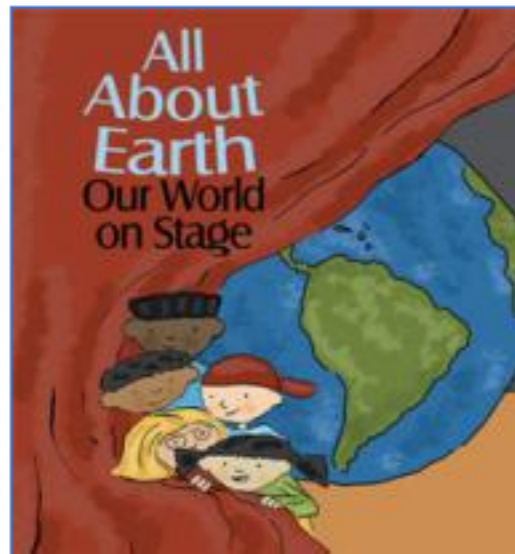
### Overview

Elementary GLOBE is designed to introduce K-4 students to the study of Earth System Science. The complete instructional unit includes:

- Science-based storybooks designed to introduce students to key concepts in [water](#), [soil](#), [clouds](#), [seasons](#) and [Earth system](#) studies.
- Classroom learning activities complementing the science content covered in each storybook that are designed to further engage students in GLOBE's 5 investigation areas.



GLOBE makes every effort to provide translations of our materials in the 6 official U.N. languages (Arabic, Chinese, English, French, Russian, and Spanish). Currently, Arabic, English, French, German, and Spanish translations of Elementary GLOBE books and teacher's guide are available on the web site. If you would like to assist us in adding your language to this list please contact us at [elementaryglobe@globe.gov](mailto:elementaryglobe@globe.gov).



# Implementation Guide

Connections to Literacy  
Connections to Science and Literacy  
Vocabulary Development  
Reading Comprehension  
Journaling  
Science Inquiry

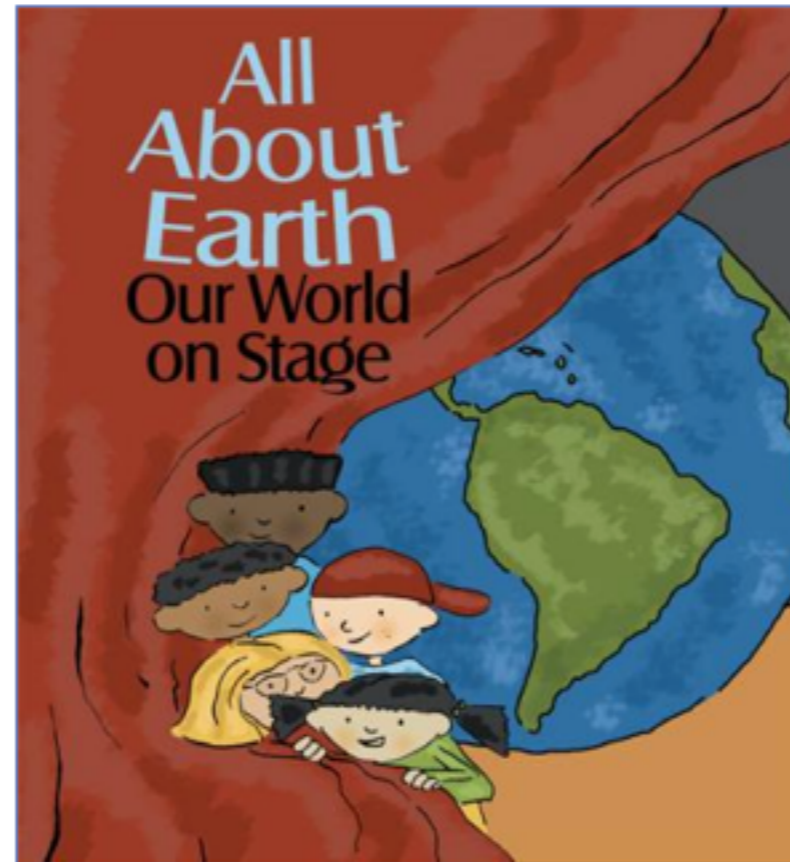
## Earth Systems Story Book

Story Book

Learning Activities

Teacher Implementation  
Guide

Printing Tips



Join Simon, Anita, Emily and the rest of Ms. Patel's class as they gain an understanding of how the Earth works as a system while preparing their end of the school year play.

Download the Earth System Module storybook and learning activities! All files require the free [Adobe Acrobat Reader](#).

Language	Web	Print
English	3.1MB	38.8MB
Français	3.1MB	
العربية	5.2MB	
Deutsch	3.1MB	31.5MB
Español	3.1MB	38.8MB

"Simon, your role is to represent water," said Ms. Patel. "Please tell us about why water is an important part of the Earth system."



"OK. I am water, and nothing on Earth can live without me," Simon stated, as he walked to the center of the stage. "I fall from the sky as rain and help plants grow. Animals drink me. I help break down materials to make soil. I form clouds and help keep the Earth cool. Besides being rain, I am also snow, hail, and sleet, and I can be found in oceans, lakes, rivers, and other waterways. When I freeze, I become ice."

"Simón, tu representas al agua", dijo la señorita Patel. "Por favor, dínos por qué el agua es la parte importante del sistema de la Tierra".



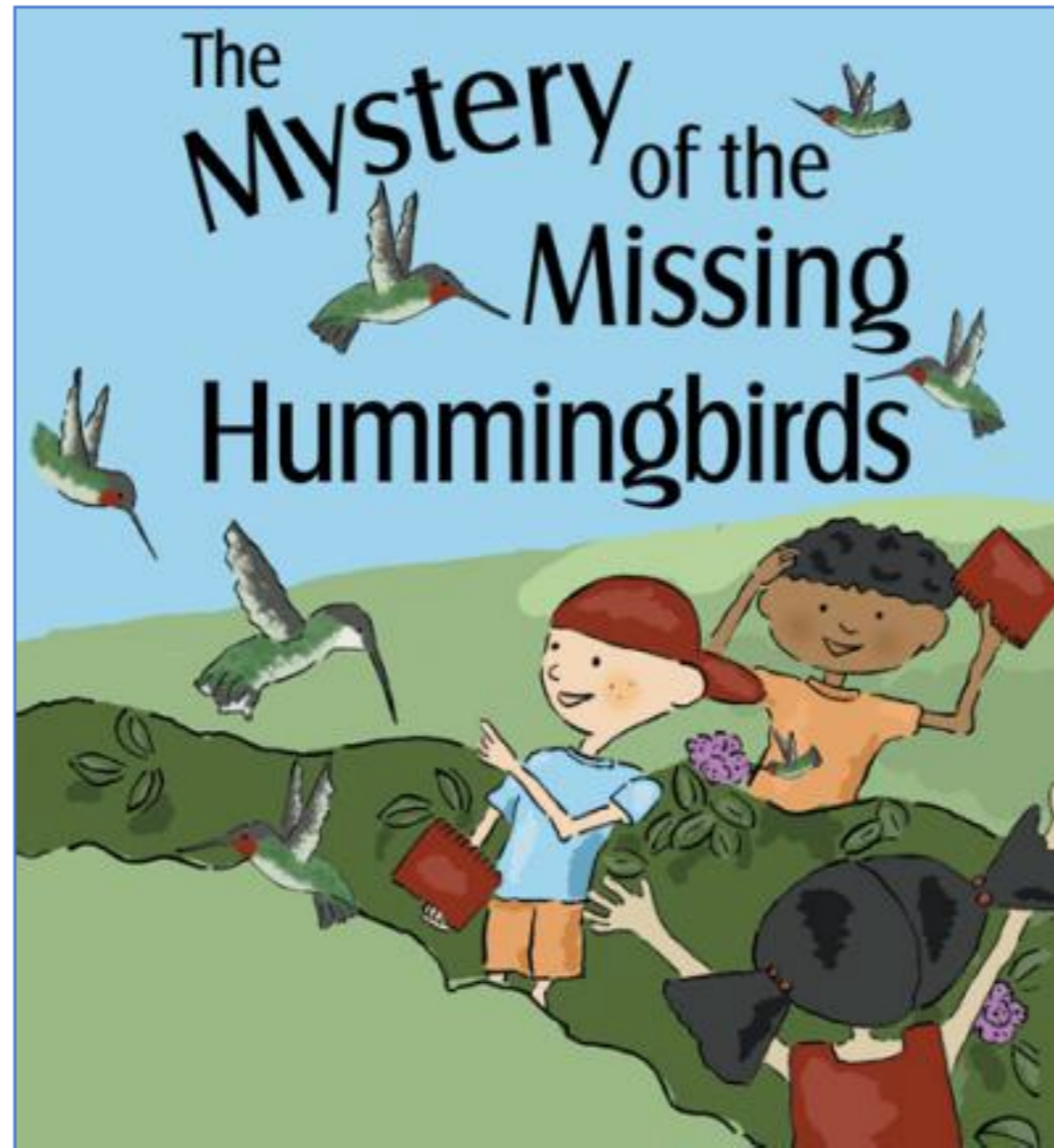
"OK. Yo soy el agua y nada en la Tierra puede vivir sin mi existencia", dijo Simón, a medida que caminaba hacia el centro del escenario. "Calgo del cielo en forma de lluvia y ayudo a las plantas a crecer. Los animales me beben. Ayudo a separar los materiales que forman los suelos. Doy origen a las nubes y ayudo a refrescar a la Tierra. Además de ser lluvia, también soy nieve, granizo y aguanieve; me encuentro en los océanos, lagos, ríos y otras fuentes marinas. Cuando me congelo me convierto en hielo".

Web Version or Print Version of the  
Books (with Printing Tips)  
Now...  
Let's Take a Look!

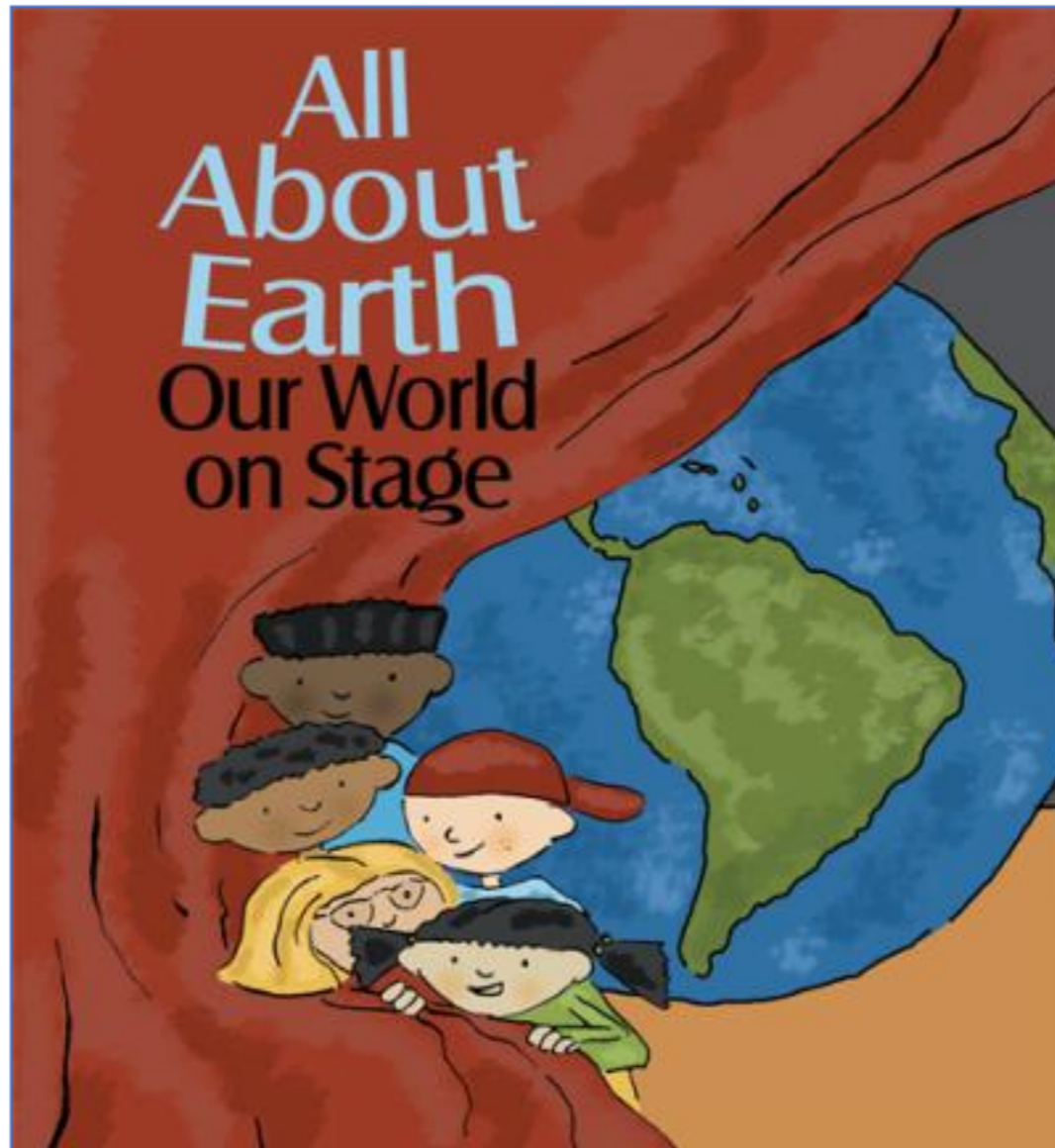
think about using:

[http://www.doe.virginia.gov/  
federal\\_programs/esea/title4/part\\_b/  
conference\\_presentations/2014/march/  
elementary\\_globe\\_storybooks.pdf](http://www.doe.virginia.gov/federal_programs/esea/title4/part_b/conference_presentations/2014/march/elementary_globe_storybooks.pdf)

Seasons Story Book



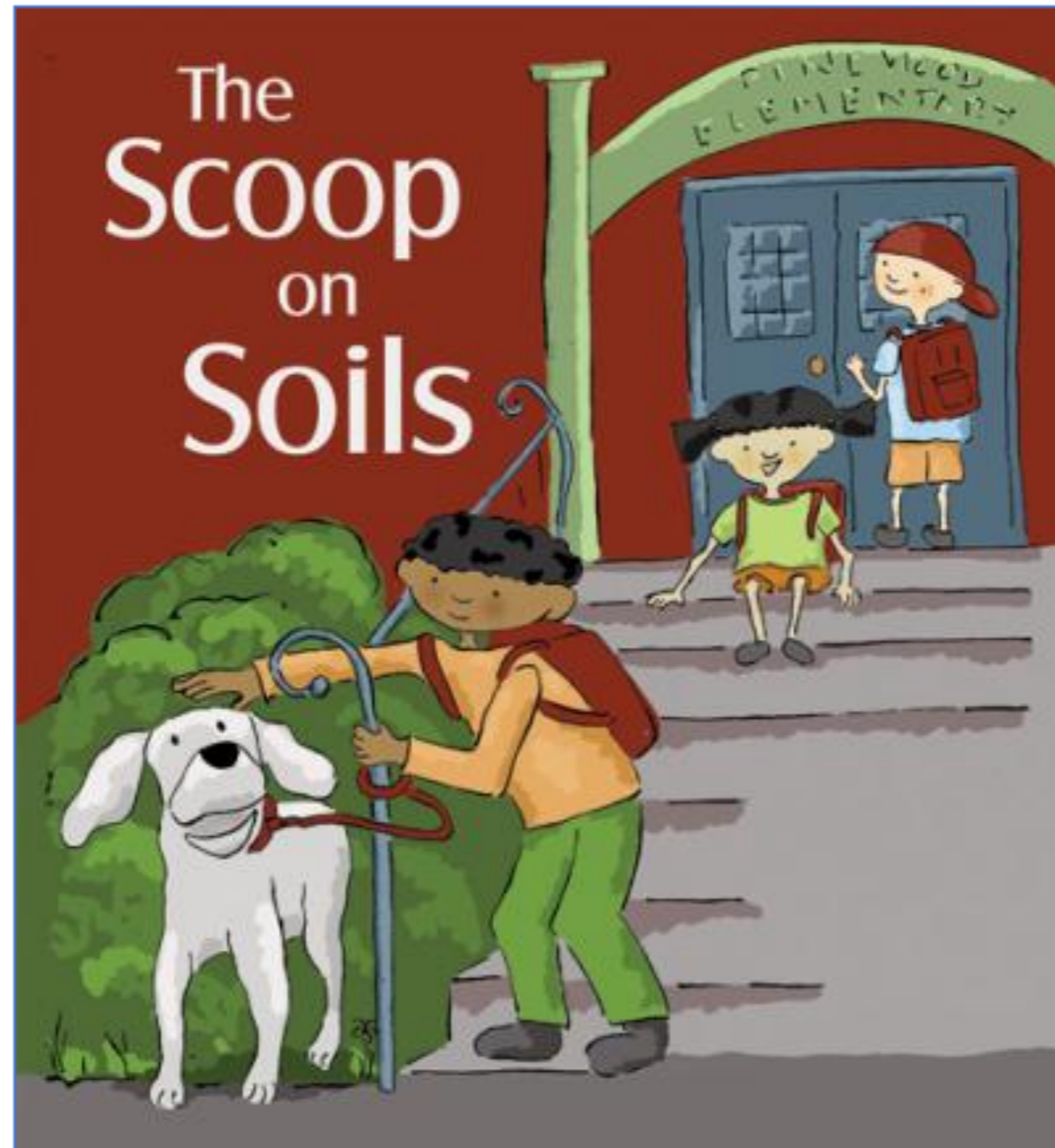
## Earth Systems Story Book



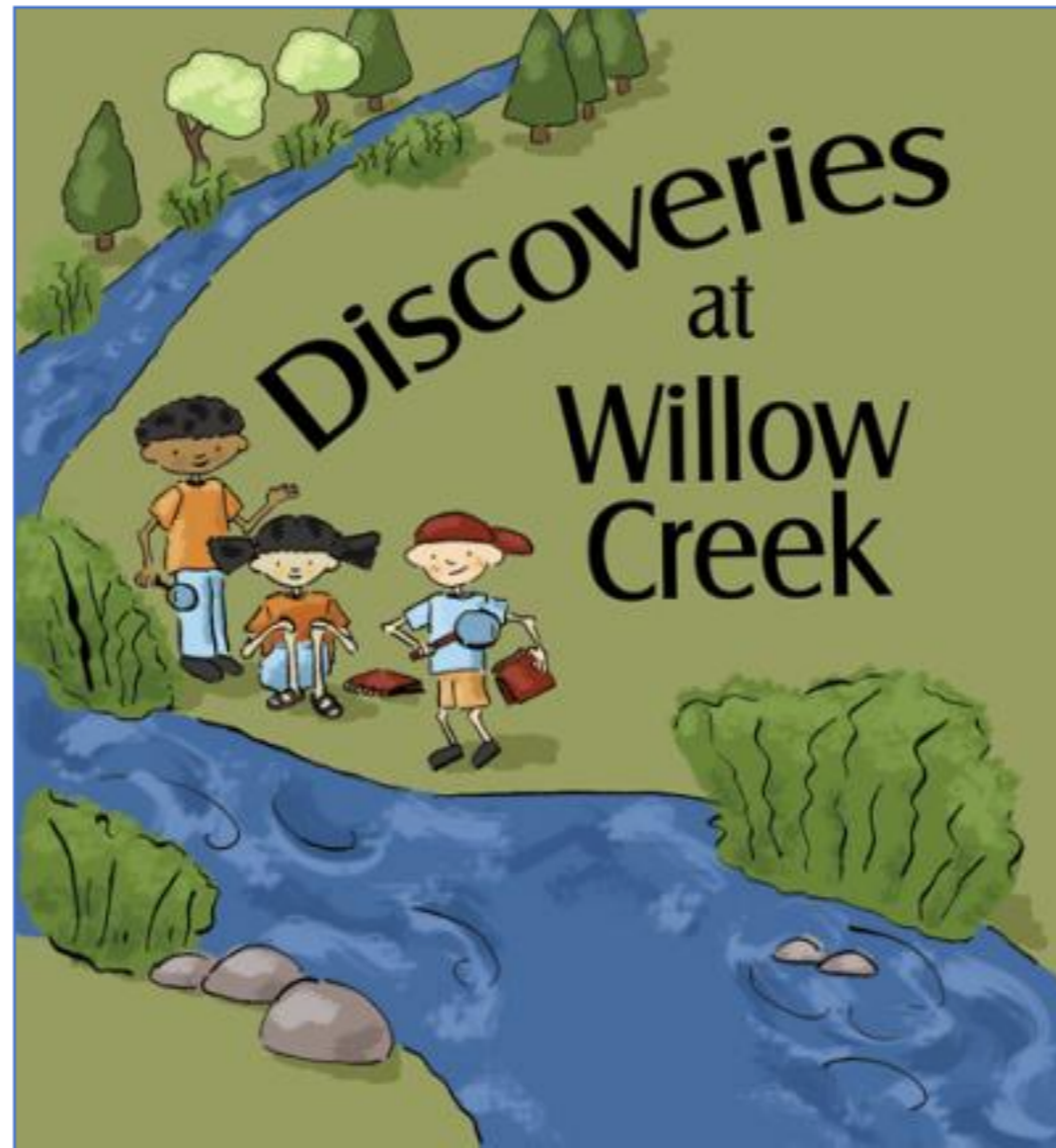
# Do You Know That Clouds Have Names?



## Soil Story Book



Water Story Book



# Learning Activities

3 Activities for Every Book

Available in Four Languages

Adaptations for older and younger students (differentiation)

Further investigations — Extend the lesson

# Earth System in a Bottle Recipe Card

## Earth System in a Bottle Recipe

Each group will make two terrariums. All groups will make a terrarium that has all of the parts of the Earth's systems. Then each group will make a second terrarium that is missing one part of the Earth's systems.



### Earth System in a Bottle



1. Put about **three cups of soil** in the bottom section of the terrarium and pat the soil gently until it is fairly firm.

2. Add about a **quarter cup of water** and look at the soil from the side to make sure that all of the soil gets wet. If there's still dry soil, add more water.

3. Drop **4-5 radish seeds** onto the surface of the soil. Use your fingertip to push the seeds just below the soil surface. Sprinkle a little more soil on top of the seeds just to cover them.

4. Place the top section of the terrarium on top, pushing alternate flaps to the inside and outside so that it fits securely. Make sure the lip/top is still on the bottle.

I've circled the part of the Earth system that it belongs to below.

It connects these parts of the Earth system.  
Draw arrows  $\longleftrightarrow$  to show the connections!



Sun  
Plants  
Animals

Costumes can be as simple or elaborate as time and money afford and student schedules and curriculum needs dictate. Students may dress in their regular clothes in colors appropriate for their






Center for Math and Science Education

Wiki Pages & Files

VIEW

## Elementary GLOBE



 [Elementary GLOBE poster.pptx](#)  
[Elementary GLOBE](#)  
[Clipboard Instructions](#)

### Activities

- **Elementary GLOBE**
  - [Teacher's Implementation Guide](#)
  - Modules:
    - [All About Earth: Our World On Stage](#)
    - [Discoveries at Willow Creek](#)
    - [Do You Know That Clouds Have Names?](#)
    - [Mystery of the Missing Hummingbirds](#)
    - [The Scoop on Soils](#)

### Pertinent Links

#### Atmosphere

- [Airplanes for Contrail](#) activity
- [Clouds](#) ppt
- [Cloud Identification Guide](#)
- [Cool Clouds for "Kids" of All Ages](#)
- [GLOBE Atmosphere Investigation](#)
- [GLOBE Cloud Chart](#)
-  [GLOBE Contrail Chart](#)
- [Kids' Crossing](#)
- [NASA: Make a Cloud Mobile](#)
- [NASA: My NASA Data](#)
- [S'COOL Students' Cloud Observations Online](#)
- [Take a Cloud Walk](#)
- [Thermometer poem](#)
-  [Weather on the Move](#) Elementary / [Weather on the Move](#) Middle
- [Wonders in Weather](#)

#### Earth As a System

- [Earth Pictures](#)
- [Earth System Match Game](#) [Suggestions for Earth System cards](#)
- [Earth System song](#)
- [GLOBE Earth As a System Investigation](#)
- [Globe foldable](#)
- [I Wonder sheet](#)
- [Our Very Own Star, the Sun](#)
- [Solar Pizza.pdf](#)

# Elementary GLOBE Wiki

<http://cmase.pbworks.com/w/page/6923142/Elementary%20GLOBE>

# e-Training

## e-Training

Overview

Modules

.exe files



### Introduction to GLOBE

The "Introduction to GLOBE" module provides an overview of The GLOBE Program and how various roles, such as teachers and scientists, are involved in the program.



### Introduction to GLOBE for Scientists

The "Introduction to GLOBE for Scientists" module provides an overview of The GLOBE Program and how scientists are involved in the program.



### Introduction to the Atmosphere Investigation

The "Introduction to the Atmosphere Investigation" module introduces the GLOBE Atmosphere Investigation, including fundamental science content and classroom resources available to support you in guiding your students through investigating the atmosphere.



### Clouds

# Web Tutorials

## Web Tutorials

### Overview



Welcome to the Web Tutorial section of the GLOBE website. The resources on these pages are here to help you understand and work with the various parts of the GLOBE website.

The GLOBE website is made up of several specialized areas that allow you to engage, collaborate, educate, as well as enter and interact with scientific data. Each area is listed on the right. Click on an item to see a video and/or download step by step guides. Tutorials cover the main areas of the site including:

- The main GLOBE website, which allows you to engage in the GLOBE Program, collaborate, and access training, and educational resources.
- The Data Entry System, which allows you to enter Scientific Data that Schools organizations have collected.
- The Visualization and Data Retrieval System which provides tools for interacting, with and retrieving scientific data that has been entered by trained community members that belong to

### GLOBE Website Training



**1. Setting up  
Your Data Site**  
[10:38]



**2. Entering  
Measurement  
Data**  
[5:20]



**3. Retrieve and  
Visualize Your  
Data**  
[16:22]



**4. Setting up  
Your GLOBE  
Account**  
[7:37]

# Live 1 - 3 Day Training

## Workshops & Training Sessions

### GLOBE Teacher Training Workshops

Connect your students to an international network of students, teachers and scientists, learning more about our shared environment. For a school to fully participate in the GLOBE Program, at least one teacher must be trained in the GLOBE science measurement protocols and education activities by attending a GLOBE Teacher Workshop.

Click on the links below for more information about a GLOBE Workshop in your area – or contact your local GLOBE Partner.

► [Advanced Filter](#)



Click a workshop number to view on map

Let's take a tour to  
access Elementary  
GLOBE



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News, features & press releases

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Current, future, past missions & launch dates

## MULTIMEDIA

Images, videos, NASA TV & more

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[Education TV Schedule](#)

[Current Opportunities](#)

#### ► For Students

[NASA Kids' Club](#)

### Educator Features

Text Size [+](#) [-](#)

#### Elementary GLOBE

03.07.07

Elementary GLOBE is a series of five storybooks designed to help K-4 teachers integrate Earth science into their curriculum as they teach students to read and write. Each book focuses on a different Earth science topic as the main characters -- Simon, Anita and Dennis -- explore the natural world:

##### All About Earth: Our World on Stage

Ms. Patel's class is about to run through a dress rehearsal of a play about the Earth system. Simon is playing the role of water, Dennis the role of soil and Anita the role of all living things. Two other students are representing air and the sun.

*Image to right: The All About Earth storybook teaches students about the interrelationships in the Earth system. Credit: UCAR*

The students are excited at first. Then they become upset as they realize that each of them thinks theirs is the lead role. The teacher asks each student to describe why his or her role is the most important part of both the play and the Earth system. In the end, the students discover that each part of the Earth system is important and could not exist without the others.



##### Do You Know That Clouds Have Names?

People, dogs and flowers aren't the only things that have names. Clouds do, too.

*Image to right: The Do You Know Clouds Have Names? storybook teaches students the names and characteristics of clouds. Credit: UCAR*

Some cloud names are cirrus, cumulus and stratus. Clouds are named based on their shape, altitude and whether they produce precipitation. Contrails are a special kind of cloud created by airplanes. Cloud photographs and the for



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